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THE CLINICAL ASPECT OF SOME DISEASES MET WITH IN YOUNG THOROUGHBRED FOALS*

BY

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NEWMARKET

When your Executive Committee met at Thetford shortly before Christmas and the question of a subject for presentation at this meeting was discussed, it was agreed that a paper on some equine subject should be given and for some reason all the members appealed to me. I made a number of suggestions at that time about subjects such as the one I have chosen, sterility, etc., but it was suggested that the average member of this Division did not see sufficient mares and foals in practice. Mr. McLintock suggested a paper to be entitled "A Day in the Life of a Thoroughbred Practitioner," but having spent some time in discussing this with my partners, and having suffered many headaches, we came to the conclusion that this would lead to a discussion of a number of unusual cases which were not likely to occur again or to be met with by any of us.

Sterility in the thoroughbred mare, haemolytic jaundice in the foal, and lameness with the aid of X-ray diagnosis, have all been subjects of discussion by members of my practice or the officers of the Animal Health Trust at comparatively recent meetings, so that we concluded that a purely clinical picture of some diseases of young foals might be of interest to you and I trust will lead to a useful and interesting discussion later..

ACUTE ENTERITIS IN THE YOUNG FOAL

This is, of course, one of the commonest and, at the same time, most difficult conditions for which we are called in to young thoroughbred foals. The causes are so numerous, both infectious and otherwise, that I shall not attempt to deal with them all now—in fact the whole afternoon could be spent on such a paper and its discussion—but I would like to record two of the more unusual outbreaks with which we have come into contact in recent years.

A few years ago, approximately in 1945, we had a number of cases of acute enteritis in young foals all occurring on one stud, and on *post-mortem* examination of a foal, pure cultures of *Cl. welchii* were recovered from all affected parts of the small intestine. Treatment was not very satisfactory and some deaths occurred before diagnosis was confirmed, but prophylactic treatment with lamb dysentery serum was most successful and no further cases were encountered. All foals born on the stud were given serum within 24 hours of birth during the remainder of that season and no cases have been reported since. This experience was repeated last year on a different stud and with similar results. I have mentioned these two outbreaks because in none of the text-books which I have read has mention been made of *Cl. welchii* as the cause of such epidemics in thoroughbred foals. Having had these experiences, however, we are now constantly on the watch for further cases and we always store a stock of this serum in case of such an eventuality. Before leaving this subject, I feel that I ought to draw particular attention to two points in these outbreaks :—

1. The very early onset of symptoms noticed in all cases —this period varied between 24 and 48 hours—and
2. In all cases, in both outbreaks, the presence of blood-stained faeces.

Salmonella typhi-murium INFECTION

During the early part of last year a number of young foals on one particular stud farm showed acute symptoms of enteritis and septicaemia and it was proved later that *S. typhi-murium* was the organism responsible.

The time of onset of symptoms in these cases varied, but where symptoms were noticed in the first 48 hours after birth the foals showed acute enteritis and septicaemia and, if recovering from this, there was always the danger of typical joint-ill symptoms developing with the joints coming up at 7 to 14 days. If no symptoms were shown until after the first seven days, enteritis only was noticed.

The organism was shown to be susceptible *in vitro* to chloromycetin and streptomycin, but clinically streptomycin given by the mouth, in doses of 1 gramme every six hours for 48 hours, gave the best results. It was found that foals could be infected at any age and several of those which developed enteritis at six to eight weeks old responded to treatment ; nevertheless, the organism was still present in the faeces and could be recovered from this source for some two to three months after apparent clinical recovery. In one case, a two-month-old foal showed symptoms of acute meningitis which proved fatal and pure cultures of *S. typhi-murium* were recovered from the cerebro-spinal fluid on *post-mortem* examination.

In this outbreak, of four cases which developed very early two proved fatal in the course of a few days, one made a partial recovery but was destroyed later as an uneconomic proposition, and one recovered. Of 12 cases developing later in life, two died, one of which was the meningitis case to which I have already referred.

Two further sporadic cases of enteritis in foals, both over one month old and proved to be due to *S. typhi-murium*, were met with later on entirely different studs, but both of these recovered and no further cases were encountered on either premises. In one of these cases two children living on the stud became infected with acute diarrhoea and the same organism was recovered from their faeces, stressing the necessity for public health precautions. In the major outbreak, where all the foals' faeces were cultured as a precaution, the organism was recovered from some individuals although no symptoms were exhibited by these and they remained healthy.

I have recorded this outbreak in some detail because we have never before heard of, or to our knowledge met with in Newmarket, a similar epidemic in which *S. typhi-murium* has been incriminated, although such cases could quite easily have occurred without the causal organism being isolated. It is perhaps interesting to note that most text-books record that this organism is pathogenic to both animals and man, and, quoting from Gaiger and Davies, they merely say,

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Bacterium typhi-murium has been recorded as the cause of enteritis in cattle, pigs, sheep and horses but such cases are not common and little is known about them."

As a final note before leaving "Acute Enteritis in the Young Foal," I would wish to say a few words about the differential diagnosis, not only of the enteritis cases, but of early septicaemias in young foals generally. So many cases of enteritis are met with that our usual guide is essentially the clinical symptoms, to distinguish those due to infections from those of a non-infective type, and the best guides are naturally pulse-rates, temperature, visible mucous membranes and respirations. In septicaemias the temperature usually varies between 103° and 105°, respiration rates are often doubled, and the heart beat will be accelerated from a normal rate of some 60 to 70 to 120 or 150 per minute.

Bacterium viscosum equi Infection

This organism is also commonly and variously known as *Shigella viscosa*, *Bacillus nephriditis equi*, or *Shigella equuli*, and is responsible for what are known as "sleepers" among young foals—a name which, I believe, originated from America.

It is said by Hagar and Bruner that within the past 25 years approximately 30 per cent. of the foals lost each season in the Bluegrass area of Kentucky died of *Sh. viscosa* infection, about one-third of these succumbing to the disease within the first 24 hours and the large majority prior to the fourth day following birth, so that you will appreciate the importance of such an infection to the thoroughbred breeder.

Post-mortem examination in these cases reveals only severe enteritis in the early stages, but a little later a purulent nephritis develops with tiny abscesses visible in the cortex of the kidney and often legs and joints become affected in the later stages. These lesions will vary from a slight increase in synovial fluid and congestion of the joint capsule to a purulent arthritis involving both joints and tendon sheaths. The causative organism may be isolated from both kidneys and joints in these cases.

Foals affected in this way are usually seen in the first two or three days after birth and show very indefinite symptoms. They cease to suck and are very listless; hence the name "sleepers." If still on their feet they will walk about without interest in anything and with the head held right down, later just lying about; general symptoms of septicaemia develop as the condition progresses, and death follows quite quickly. Poor, weak foals are more often affected because septicaemias are more likely to develop in these cases.

Streptomycin appears to give the best results as a curative treatment, but the difficulty arises in making an early diagnosis or seeing the patient early enough, since late treatment certainly is not effective. As a prophylactic, specific treatment of foals with antiserum prepared from *Sh. viscosa* has been attempted in America without encouraging results, so that very early diagnosis and treatment appears to be the best line of attack and it is claimed that 50 per cent. of cases can be saved in this way.

"Barkers" and "Wanderers"

These conditions in newly born foals will have been heard of, if not seen, by all of you and since they have been the subject of a similar paper to this in the past, I do not propose to spend any great amount of time describing them to-day.

I have purposely coupled these two conditions for consideration since from a clinical point of view they appear to be very closely related, the difference probably being only one of degree; and "barkers" if surviving the convulsion stages invariably become "wanderers." In the majority of cases we are called in by the stud groom, who will tell us that the foal was born apparently quite easily and appeared in every way normal, an hour or two previously, but that suddenly the symptoms came on. Such foals usually show acute C.N.S. symptoms, galloping around the box into the wall or manger and falling over backwards; frequently they leap spasmodically like a kangaroo, sweat and blow profusely and in true cases they will bark very loudly and very like a fox: often we can hear the barking perhaps 100 or more yards away from the box on our arrival.

I am afraid we know of no specific cure for such cases but the essential thing, of course, is to prevent the animal from damaging itself during these convulsions. Nembutal has been used quite successfully to control the convulsions in some cases and bleeding the foal from the jugular vein seems also to be helpful, but in any case quite a large percentage of those that recover seem to do so spontaneously, provided the convulsions do not last too long and are not too severe. In the past we have often just detailed a number of men to hold these foals down so that they cannot damage themselves, until the spasms pass and these cases, too, have sometimes ended successfully.

It is always helpful if the original attack is delayed until the foal is on his feet and has had a good suck because the convulsions may last a number of hours and the newly born foal will become weak before receiving any nourishment.

After the spasms have ceased the foal is usually quite exhausted and in the majority of cases temporarily quite blind. It seems to have no idea of sucking or where to find the teat; usually it will not swallow if given milk as a drench or suck from a bottle and although not violent will continue to walk on if on its feet and bump into any wall or other obstruction. These later symptoms following the "barker stage" are typical of the "wanderer" and in the case of true "wanderers" they occur in this way without the acute nervous symptoms and convulsions. In these cases the stud groom usually rings us to say that he has what he aptly describes as a "daft" or "dummy" foal. During the wandering stage we are in the habit of feeding it with a stomach tube with milk drawn from the dam; then it becomes a race to get the foal sucking or drinking again before the mare loses her milk from lack of stimulation of normal sucking. If too much food is given by the tube the foal will be too contented and sleepy to make the necessary effort on its own behalf and if insufficient is given it will obviously become too weak to try or to stand. A happy medium must be struck and a great deal of patience used. In those cases where recovery occurs the sight usually returns over a longer or shorter period and we are not aware that any permanent damage is suffered.

Common Colics of Foals

I propose to mention in detail only one condition under this heading, chiefly because this paper purports to deal only with very young foals and colics are not common in them, except in some of the conditions with which I have already dealt. One does, however, meet with the odd case of true flatulent colic in foals only two or three hours old. Distension of the abdomen may or may not be present but one is usually told that the foal was born quite normally and behaved so for the first hour or so, that it got up and sucked the mare but suddenly was found in acute pain.

The symptoms can be quite alarming in so young a foal which will often roll continually, groan and behave almost as though in convulsions, but in the great majority of cases these symptoms will pass off in the course of half to one hour and the patient returns quite to normal. I have in acute cases given

small doses of Pethidine (Burroughs Wellcome) with complete success but for obvious reasons I cannot say that those cases would not have made an equally complete recovery without treatment.

In a few cases the pain and acute symptoms may pass off in this way but some distension and a degree of discomfort may remain for even a day or so ; however, this gradually subsides without permanent ill effects. Merely as a point of interest I may mention that we have had early cases of twisted bowel in foals, the earliest that I can recollect being five days old.

Retained Meconium

Undoubtedly the most frequent cause for calls which we get to foals in the first 36 hours of life is retained meconium. This becomes impacted in the last few feet of the alimentary tract and usually in the last few inches of the rectum. The foal may or may not cease to suck ; it strains continually to pass faeces, holds the tail up and frequently crouches or walks backwards in the effort. I do not think I need go into the treatment in any great detail, but we usually find it necessary to remove the stools mechanically and I have with me the type of spoon which we find most useful for the purpose and least likely to cause damage. Personally, as a preliminary step, I always introduce a small quantity of liquid paraffin into the rectum by means of a syringe with a soft rubber nozzle about 9 inches to 1 foot in length, because this tells me the approximate position of the obstruction and also lubricates the lumen of the rectum preparatory to removal of the stools. Obviously care must be taken in this operation and it often requires a second and perhaps a third visit, since after clearing the rectum further faeces will be passed back into it, but frequently oily enemas may enable the foal to pass them.

In some very obstinate and acute cases we have found it necessary to break down or remove a very large stool by means of spoon-armed forceps, but this is unusual and to be avoided when possible because of the ease with which the rectum can be damaged in this operation.

Two points of interest may be mentioned in connection with this trouble—(*a*) it is noticeable that it affects a very much larger proportion of colt than filly foals and quite often these are foals that have been born over time, and (*b*) the more difficult cases are always those where the foal is small and the angle of the floor of the pelvis is narrow. Finally, the case may be complicated by amateur efforts of the attendant to remove faeces with his finger. This usually results in failure but causes great swelling from oedema of the rectum, considerable soreness of the parts and, what is more, a reduction in the size and elasticity of the anus and rectum as a result of the clumsy manipulation.

Entropion

Quite a large percentage of young foals are affected in this way and we are usually told by the stud concerned that they would like us to see a foal that has run something into its eye : this is because some opacity of the cornea is already present. I do not regard this as a true entropion in the sense that we consider the condition which occurs, for instance, in the dog, but the eyelashes are, nevertheless, invariably turned back into the eye. In many early cases it is sufficient to turn the eyelids out, show the attendant how to do it and give him instructions to watch frequently for the next few hours, to right the trouble if it returns, but in the majority of cases an operation is necessary.

The method of operating which we find effective and which entirely avoids the use of the knife, or any exercise of fine judgment in the removal of skin, is to pick up a fold of skin immediately below the eye (in the case of a lower lid), suture right through it with a medium size silk suture, then pick up a further fold some ¼ inch below that, repeat the process and tie the two together. This, of course, has the same effect in turning out the eyelid as removing the skin and suturing, and one or two such sutures are usually ample to ensure eversion of the lid. We generally remove these sutures in the course of about three days when the eyelids will remain in a normal position. Penicillin is instilled into the eye and the opacity disappears very quickly once the cause of the irritation is removed.

Silk is used in preference to nylon in this case to avoid the stiff sharp ends which could turn into and irritate the eyes.

Once again I would stress that weak foals are the type in which this condition is mostly met with and to a large extent it is this weakness and the consequent rubbing and irritation which is responsible.

Rupture of the Bladder

The next condition about which I propose to say a few words is not very common in young foals but it is one which we meet normally at least once, perhaps two or three times, during each season—I refer to rupture of the bladder. Generally speaking, nothing is noticed in these foals during the first day or two after birth although we have noted that quite a high percentage of these are attended during the first 24 to 48 hours for retained meconium. At a later stage, perhaps some time after the fourth day, it becomes evident to the attendants on the stud that all is not well with the foal in spite of the fact that the majority continue to suck the mare out. The foal shows a general discomfort ; it makes frequent attempts to micturate but passes only small quantities of urine. It may be noticed to walk backwards or crouch continually, usually with its tail held up, and as the condition progresses some anasarca becomes evident.

Diagnosis of these cases presents little difficulty except in the very early stages but if seen only when the condition is far advanced the foal becomes toxic, the degree of shock from operation becomes far greater and the prognosis therefore far from good.

Where a diagnosis can be made early and the foal is still strong and active, an operation is performed with as little delay as possible.

Our normal procedure is to shave off and clean a small area of skin in the lowest part of the abdomen—somewhere close to the umbilicus—anaesthetise the area with a local anaesthetic and then introduce a small bore trocar and cannula into the peritoneal cavity, the foal, of course, being held in the recumbent position. Naturally, the quantity of fluid which can be removed in this manner will vary, but commonly it amounts to 2 gallons or more and then, of course, a considerable quantity will be left behind.

Intravenous general anaesthetisation with nembutal is the next step and we have found that in the average thoroughbred foal of perhaps five to seven days old some 20 to 30 c.c. is necessary to ensure a sufficient depth of anaesthesia. The foal is then placed on his back on a convenient table and the abdomen carefully washed and shaved. A large bran sack stuffed with straw and then stitched together longitudinally down the centre, so that one has a central depression in which the backbone rests, is of material assistance during the operation and to have the fore part, *i.e.*, the head end, raised or capable of being raised, to assist drainage of the remaining fluid is also of great assistance.

An incision is made some 6 to 8 inches long, extending

anteriorly from the pelvic brim along the linea alba in the case of a filly foal or parallel to the sheath in the case of a colt, and the abdominal wall opened in the usual way. At this stage it is invariably necessary to raise the foal's shoulders in order to drain off some of the superfluous fluid from the peritoneum, after which the bladder is found and exposed. In almost every case it will be found that the rupture is on the dorsal surface of the bladder ; it is usually about 1½ inches in length. As the rupture is generally on the dorsal surface it becomes necessary for an assistant to hold the bladder at both ends and rotate it so that the rupture is exposed. The operator then closes the rupture with a row of close interrupted Lembert sutures of fine silk and having completed this, these sutures are in turn buried by a second layer. After the area has been insufflated with a sulphonamide powder, the abdominal wound is closed in the usual way, the deeper layers with stout chromic gut and the skin by a layer of interrupted nylon sutures.

Up to date we have not had any case complicated by peritonitis (as might be expected) and the majority of cases on which we have operated have recovered without incident. In one unfavourable case the foal was toxic and seen only in the later stages ; although the operation was successful, and healing completed without complication (as was seen on *post-mortem* examination) the dam refused to suckle the foal when it was returned to her after the operation and after some 10 days it died from exhaustion and a degree of pneumonia following on failure to rear it on an artificial diet.

Whether the rupture is present as a defect of nature at the time of birth or is caused by pressure on the bladder at that time cannot be determined, but it seems likely that the pressure theory is the correct one and that the extent of the rupture increases as the foal gets older.

Congenital Deformities, with Special Reference to Contracted Tendons

I do not propose here to deal with the freaks of nature which obviously must be met with over a number of years, but I think I should make a reference to those foals, and there is quite a big percentage of them, which are born with some degree of contraction of the flexor tendons, a condition which may affect either a fore or a hind joint or joints.

In most cases of this type it is a fetlock joint which is at fault and the foal will be noticed to knuckle badly either occasionally or constantly, according to the severity of the contraction. If nothing is done to right this trouble it will soon be found that the foal is walking and taking his weight on the lower end of the front of the cannon bone and sores and sloughing of the skin very soon will develop.

In quite mild cases a good strong calico bandage with plenty of cotton wool under it is sufficient to avoid this tendency to knuckle and as the foal gets stronger during the next few days even this may be dispensed with ; with the more severe cases, however, such a support is not sufficient and here we are in the habit of using poroplastic felt to form a firm splint.

The foal being held in the recumbent position, a liberal amount of gamgee tissue is applied to the limb from the knee, or hock, to the foot and a bandage wound quite tightly over this. An appropriate-sized square of poroplastic felt is then immersed in water which must be very hot, in fact almost boiling, so that the felt becomes really soft when thoroughly soaked through. After wringing out the surplus moisture the felt must then be quickly moulded to the leg whilst this is held as fully extended as possible ; normally we tie the felt in three or four places with short lengths of strong calico bandage. It will probably be found to be convenient, or necessary, to apply two of these over the cannon bone—one over the fetlock joint itself and one over the pastern—and they are tied as tightly as possible to keep the felt in the original moulded position. A further calico bandage is now wound tightly over the whole felt.

Probably it will now be found that when the animal is allowed to rise he will be taking his weight only on the underside of the tip of his toe, but knuckling is no longer possible and his own weight is constantly forcing extension on the joint. After a day or two the operation should be repeated when more extension can be obtained than at the first visit and the condition is thus gradually reduced. There is some danger of sloughing of the skin from pressure, particularly on the front of the fetlock joint, but provided that extension of the joint can be obtained in time, this can always be overcome after it has become possible to remove the felt with safety.

In some obstinate cases we have used a special splint following the felt and with the object of shifting the main pressure points on the limb. I am able to quote one of these which it fell to my lot to attend and which actually turned out successfully after the owner had given permission for destruction if I thought it advisable. I refer to " Hyperides," who was afterwards beaten only a neck by " Watling Street " in a wartime Derby at Newmarket.

The splint to which I refer consists of a metal strip which is fastened to the toe of a leather hoof boot, extends up the middle line of the front of the leg and is attached to the cannon and fetlock joints by leather strips. The metal, of course, is adjusted to the amount of extension required and the toe is consequently pulled upwards and forwards to force the weight as far as possible on to the sole.

I would add that it is not at all uncommon to find that two or even more limbs may be affected in the same foal but, although it will be found necessary to leave such cases constantly attended and have the foal assisted to its feet in order to allow it to suck at sufficiently frequent intervals, they will make good recoveries in most cases if treated in the way I have described and if not too badly affected in the first place. Where the limbs are so badly flexed that the foal is unable to stand with assistance and the limb cannot be extended by strong pressure far enough to allow the foal to retain its balance, I do not think any treatment is worth while or any cure is possible. I would like to add here that a large number of affected knees and hocks in very young foals which look almost hopeless at birth, do make the most amazing spontaneous recoveries as the foal gets stronger and one has always to be very guarded in giving an unfavourable prognosis in such cases.

Also I feel that I should stress that where great pressure is used to extend a joint with bandages or splints, frequent, perhaps daily, changes of these bandages will be necessary to reduce the danger of pressure sloughs.

Abrasions

I would now like to say just a few words about abrasions in young foals—a subject which may appeal to you as rather futile but which to us can be a very real difficulty ; I refer chiefly to abrasions of the hock. These cases occur invariably in weak foals, perhaps born before their time or from mares which have been very badly done themselves and are consequently in bad condition.

Because of this weakness probably the foal will be quite incapable of getting on to its feet without assistance, but it will still try to do so, and the struggling on the floor will cause these abrasions chiefly on the outside of the hocks. In bad cases complete sloughing of the skin will occur over an area of perhaps 6 inches in length and both hocks may be affected.

Unfortunately, one cannot foal mares on sawdust or peat-moss so that the only alternative is old straw as short and as soft as possible. Attendants must be left with such a foal both night and day, to put it on its feet regularly for sucking and to attempt to prevent the animal from struggling on the ground.

So far as treatment is concerned, any of the ordinary treatments for open wounds—such as a sulphonamide powder—is effective and successful provided that pressure necrosis and the constant friction can be avoided.

Occasionally, similar abrasions will be found on the fore-legs, the outside of the fetlocks, or other prominent parts of the limbs, but the hock is the chief source of trouble and can be quite a source of anxiety in some obstinate cases.

Pervious Urachus, Abscess Formation at the Navel and Ruptures

A paper of this description would not be complete without some mention of these conditions, but in the case of pervious urachus and abscess formation the treatment is merely a straightforward one of cleaning up the area or draining the abscess cavity as frequently as necessary and applying anti-septics at regular intervals. We do, however, stress the necessity, or perhaps I should say the wisdom, of giving T.A.T. injections to all these cases since the navel is the obvious route by which very young foals may become infected with tetanus if the organism is present.

Hernias are not commonly seen in very young foals but develop at a later stage, especially umbilical hernias which are quite common and usually treated at about three months old. Inguinal hernias, however, are occasionally seen in very young foals, and may be quite alarming in size, but these invariably disappear spontaneously and no treatment is necessary.

I am making no attempt to deal with joint-ill in foals since it is not commonly met with in very young foals and I have already dealt with *B. viscosum equi* infection, which is the commonest form of very early joint-ill. A great deal of time could be spent in discussing this condition in older foals, but I would like to emphasise that septicaemias of young foals may lead to joint-ill, but in such the joint-ill is generally considered as a secondary condition or complication and may be caused by a wide variety of organisms. I have also deliberately avoided any detailed mention of haemolytic jaundice because Dr. Farrelly dealt very adequately with this subject at a meeting of the Division recently held at Chelmsford.

I sincerely trust, therefore, that the few inadequate remarks which I have made on those subjects which I have included in this paper may have been of some interest to the majority of you and may lead to an interesting and instructive discussion.

Weekly Wisdom

Most people regard with distaste any scientific analysis which smacks of criticism of things they like. . . . The collection of evidence that cigarette smoking has any physiological effect at all is regarded as not playing the game.—Review (J. H. Burn, *B.M.J.*) of "Tobacco and the Cardiovascular System," by Grace M. Roth, Ph.D.

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During the year ending September, 1951, milk sales fell off in every county in England and Wales except four. The exceptions were Surrey, Suffolk, Norfolk and the Isle of Wight, all counties with a very high proportion of recorded herds. This information was given by Mr. I. J. C. Friend, the M.M.B.'s Dairy Husbandry Officer, at the annual meeting of the Isle of Wight branch of National Milk Records.—*Farmer & Stock-breeder.*

IMMUNISATION AGAINST NEWCASTLE DISEASE WITH A VIRUS OF LOW VIRULENCE (STRAIN F) and OBSERVATIONS ON SUB-CLINICAL INFECTION IN PARTIALLY RESISTANT FOWLS

BY

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Iyer and Dobson (1940) suggested the use of an artificially attenuated strain of Newcastle disease virus as a live virus vaccine. They stated, however, that owing to the marked susceptibility of young chicks, the vaccination of fowls under eight weeks of age was not to be recommended. During recent years numerous workers (Haddow & Idnani, 1946; Komarov & Goldsmit, 1947; Van Roekel *et al.*, 1948; Reagan *et al.* 1948; Clancy *et al.*, 1949; Beaudette *et al.*, 1949; Hitchner & Johnson, 1948) have reported on the use of live viruses for immunisation.

The strain developed in India by Haddow and Idnani (1946) has been widely used in Asiatic and Eastern European countries in the control of the virulent form of Newcastle disease. This strain may produce a rather severe reaction with loss of egg production, paralysis and death of a proportion of vaccinated fowls. It has largely been superseded by less pathogenic strains.

Beaudette *et al.* (1949) isolated 105 strains of virus from natural outbreaks and selected one strain of low pathogenicity for use as a live vaccine. Vaccination of 2,884 chicks at 30 to 36 days of age by the "stick" and intramuscular methods resulted in a loss of 50 chicks (1·73 per cent.) from all causes. The loss from all causes in 83,059 birds on 20 commercial farms was 1,519 (1·82 per cent.). In laying flocks egg production fell on the fifth or sixth day after vaccination but had returned to normal by the 12th to 20th day after vaccination.

Hitchner and Johnson (1948) introduced a virus (B_1) of low pathogenicity for the immunisation of young chicks. This strain was administered by the intranasal route. Hitchner (1950) reported that the mortality in the three-week period following vaccination of 136,551 chicks vaccinated when less than a week of age was 2·06 per cent. In 15,750 hens vaccinated when in production there was no marked effect upon egg production. When the B_1 strain was used to immunise very young chicks reinoculation at maturity to reinforce immunity was considered advisable.

Mention was made (Asplin, Gordon & Reid, 1949) of an outbreak of mild respiratory disease which occurred on a large poultry plant conducting a considerable trade in day-old and growing chickens. A strain of virus identified as Newcastle disease was isolated. The disease appeared to have been present on this establishment for two to three years before attention was drawn to it. Although many thousands of chickens had been involved, symptoms either had escaped attention or had been restricted to the respiratory tract.

The disease could be experimentally transmitted by intranasal instillation of suspensions of respiratory tissues and by egg propagated virus; whilst intramuscular inoculation normally resulted in immunity without the production of obvious clinical symptoms.

This strain of Newcastle disease virus was maintained by propagation in embryonated fowl eggs at irregular intervals for two years. It differed from other strains of virus which have been isolated at this laboratory in that death of embryos

rarely occurred within 72 hours of inoculation and some embryos inoculated after ten days' incubation survived to hatch.

Regular weekly transmissions through embryonated eggs were commenced in November, 1949, in an attempt to differentiate strains of virus having different characteristics. Strain F, which was used in the immunisation tests reported here, originated with these transmissions.

In view of the considerable number of live virus vaccine strains which are in extensive use at the present time, it is with hesitation that the claims of a further strain are put forward. Apart from trials in the laboratory, Strain F has now been used as an intranasal vaccine in a number of laying flocks (and in 800 three-day-old chicks) without causing economic loss. Results of these trials will be published later.

Immunisation of Baby Chicks

Three tests, involving 180 R.I.R. chicks of less than one week of age, were carried out.

The vaccine consisted of undiluted embryonic fluids of fowl embryos which had been inoculated five days earlier with F strain. The virus suspension was administered by the intranasal route. In two of the trials no symptoms were noted ; in the third, slight coughing was heard from the fifth to ninth day after vaccination. There was no nasal discharge. One chick was found dead on the third day after vaccination with an intussusception. Several deaths from caecal coccidiosis and non-specific causes occurred five weeks after vaccination. Some chickens were discarded and the remainder maintained for duration of immunity tests.

Chickens were tested for immunity by intramuscular injection of virulent (Hertfordshire 1933 strain) virus which regularly killed the susceptible controls on fourth to sixth day after inoculation. The results are shown in Table I.

Table I

Duration of Immunity in Chickens Vaccinated when Less than One Week of Age

No. of chickens	Time between vaccination and test of immunity	Response
	Days	
6	19	All remained normal.
8	54	All remained normal.
6	91	All remained normal.
6	134	All remained normal.
4	155	Two became sick but recovered.
4	214	Two became sick, one died.
4	260	All remained normal.
5	291	One became sick but recovered.
4	323	All remained normal.
4	358	Two became sick, both died.
6	392	Two became sick, both killed.

Immunisation of Growing Chickens

The experimental stock consisted of 24 12-week-old R.I.R. chickens. They were divided into two groups : one group of 12 received 0·5 ml. of undiluted infected embryonic fluid intramuscularly ; the remainder received one drop of fluid intranasally. No symptoms were observed in any of the chickens during the ensuing weeks. Three died from non-specific causes during the period of maintenance. The remainder were tested for immunity by intramuscular injection with Hertfordshire 1933 virus at the intervals shown in Table II. None of the birds showed any evidence of Newcastle disease.

In two subsequent experiments involving 107 four- to six-week-old chickens vaccinated by the wing web route, antibody response and development of immunity was erratic. In one group of 21 chickens seven died after challenge with virulent virus, and in another group of 28 chickens 10 failed to show any significant rise in antibody titre.

Table II

Duration of Immunity in Chickens Vaccinated at 12 Weeks of Age

Vaccinated intranasal route		Vaccinated intramuscular route	
No. of chickens	Period between vaccination and test	No. of chickens	Period between vaccination and test
	Days		Days
2	32	2	32
2	67	2	67
2	106	1	106
2	229	2	170
1	274	1	274
1	336	2	398
1	398		

Immunisation of Adult Fowls

The experimental stock consisted of 50 R.I.R. hens, one year old, from a flock in full production. The hens were divided into three pens, each group being mated to two cockerels. The hens were trap nested for three weeks before vaccination and for the following four weeks.

Group 1 consisted of 17 hens and two cockerels. Only the hens were vaccinated—by intranasal instillation of one drop of undiluted infected embryonic fluid. No symptoms were observed. Egg production was higher in the period after vaccination. This was attributed to seasonal influence. Fertility was not affected. Attempts to isolate virus from the shells of eggs, from infertile eggs and from embryos developing in eggs laid during the two weeks following vaccination were unsuccessful.

Antibody demonstrated by haemagglutination-inhibition tests appeared in the sera of the cockerels and in 15 of the hens, and was highest in two hens which were not laying.

Group 2 consisted of 17 hens and two cockerels which received 0·5 ml. of virus from the same stock as Group 1, but injected intramuscularly.

The results were similar to Group 1. No symptoms were observed. There was a rise in egg production, no change in fertility. No virus was isolated from eggs or from developing embryos of eggs laid during the two-week period following vaccination. Circulating antibody appeared in the hens and both cockerels, indicating spread of infection. Here again antibody titres were highest in two hens which were not in production.

Group 3 consisted of 16 hens and two cockerels. They were injected intramuscularly with 0·5 ml. virus from the same stock but diluted 1 : 10. No symptoms were observed. The antibody titres of all but two of the hens and the two cockerels remained at their pre-inoculation levels.

Two hens and the two cockerels (Group 3) were tested for resistance by inoculation of virulent virus 35 days after vaccination. All four died of Newcastle disease. It was concluded that a vaccine infection had not been established in this pen. The remainder of the pen were discarded.

Hens of Groups 1 and 2 were tested for immunity by intramuscular injection of virulent virus at the intervals shown in Table III. No symptoms were observed in any of the chickens.

TABLE III

DURATION OF IMMUNITY IN FOWLS VACCINATED AT ONE YEAR OF AGE

Vaccinated by intranasal route		Vaccinated by intramuscular route	
No. of fowls	Period between vaccination and test	No. of fowls	Period between vaccination and test
	Days		Days
3	35	4	35
2	131	2	131
2	234	2	234
2	293	2	293
2	339	2	339
2	415	2	415
2	435	1	435

INFECTIVITY OF VACCINATED FOWLS AFTER INOCULATION WITH NEWCASTLE DISEASE VIRUS

Doll, Wallace and McCollum (1950) demonstrated that chickens vaccinated intranasally with the B_1 strain of virus at three weeks of age could be reinfected by direct contact or intranasal instillation with a different strain of virus 51 days later. This virus was re-isolated from tracheal swabs taken on the third to fifth day after exposure and there was a marked serological reaction. It was suggested that reinfection was limited to the respiratory tract.

In our experiments resistance was usually tested by intramuscular injection of a virulent strain of virus (Hertfordshire 1933) which regularly killed susceptible control chickens. A series of examinations was made to determine if vaccinated chickens which failed to show symptoms after challenge excreted virus in their faeces. The method of testing consisted simply of inoculating 10 to 12-day embryonated eggs with a crude suspension of faeces containing penicillin and streptomycin. The results of a series of such examinations are shown in Table IV.

It will be noted that virus was detected by this method in the faeces of 15 of the 17 chickens tested individually whose haemagglutinin-inhibition titres had fallen to 10 or lower, whereas all 37 fowls with titres of greater than 20 were negative.

The faeces of some fowls were examined daily for the presence of virus. Virus was not detected earlier than the third day nor later than the ninth day after challenge.

TABLE IV

EXCRETION OF NEWCASTLE DISEASE VIRUS BY VACCINATED CHICKENS WHICH FAILED TO SHOW SYMPTOMS AFTER CHALLENGE WITH HERTFORDSHIRE 1933 STRAIN

Intranasal virus vaccine	Age at vaccination	Period between vaccination and challenge	Number of fowls examined	Fowl number	H.I. titre at challenge	Virus in excreta
Strain F	3 days	183 days	6	Excreta pooled	5 to 20	+
„ F	Adults	Survived challenge with Hertfordshire virus 143 days after vaccination. Re-challenged 14 days later	3	4974	6,400	−
				5047	6,400	−
				4655	25,600	−
„ B_1	3 days	65 days	6	2416	5	+
				2420	5	+
				2423	5	+
				2432	5	+
				2428	640	−
				2421	160	−
„ F	Adults	179 days	3	4701	320	−
				5104	20	−
				5123	80	−
„ B_1	3 days	75 days	4	2493	5	+
				2494	5	+
				2495	10	+
				2496	10	−
„ F	3 days	222 days	6	2391	10	+
				2392	10	+
				2395	40	−
				2396	20	−
				2399	5	+
				2400	5	+
„ F	6 days	392 days	3	1244	5	+
				1662	10	+
				1667	80	−
„ F	Adults	234 days	12	4913	5	+
				11 (tested individually)	320 to 1,600	−
„ F	Adults	264 days	12	Tested individually	320 to 1,280	−
„ F	3 days	269 days	5	2375	80	−
				2390	40	−
				2393	10	−
				2397	10	+
				2398	20	−

Infectivity of Vaccinated Fowls after Contact with Infected Fowls

Twenty cockerels vaccinated intranasally with the B_1 strain at three days of age were placed in contact 16 weeks later with three cockerels artificially infected with the Hertfordshire 1933 virus. The three infected fowls died three days after the commencement of contact. Three days later 11 of the vaccinated fowls still apparently healthy were killed. No lesions suggestive of Newcastle disease were seen but Newcastle disease virus was demonstrated by embryo inoculation in the spleen and liver of six of them. One of the remaining nine contact fowls sickened two days later and died of Newcastle disease. The other eight remained clinically normal. Haemagglutination-inhibition test later showed a significant rise in circulating antibody in four of the fowls. Details of this experiment are represented in Table V.

The Hertfordshire 1933 strain of virus has been maintained by artificial transmission for 18 years. Although this strain produces a virulent infection in susceptible chickens following parental inoculation, it has been found on a number of occasions to be poorly invasive and that it may fail to infect susceptible chickens placed in pen contact. This may explain the apparent lack of response of some of the fowls in this experiment.

These observations indicate that it is possible to produce an inapparent infection with virulent virus in vaccinated fowls.

Table V

Infectivity of Vaccinated Fowls after Contact with Infected Fowls

Fowl No.	Initial H.I. titre 24.10.51	Killed	Virus isolation from spleen and liver 1.11.51	H.I. titre 12.11.51
2413	10	1.11.51	+	
2414	10			6,400
2417	20			20
2419	40			320
2422	5	1.11.51	−	
2424	10	1.11.51	−	
2425	10	Died Newcastle disease 5.11.51		
2426	20			10
2427	10			5
2429	10			6,400
2430	10			6,400
2431	10			10
2645	80	1.11.51	−	
2654	5	1.11.51	+	
2664	5	1.11.51	+	
2671	10	1.11.51	−	
2674	10	1.11.51	+	
2675	5	1.11.51	+	
2676	10	1.11.51	+	
2678	10	1.11.51	−	

Discussion

The essential requirements of a Newcastle disease vaccine are that it should cause minimum loss and should confer a durable immunity.

It has been the general experience that inactivated chemically treated Newcastle disease vaccines confer only a temporary resistance and that injections have to be repeated at approximately three-monthly intervals. Even then "breaks" may occur.

The live virus vaccines which have been widely used all produce a definite illness and may cause loss. Except when vaccination is carried out at a very early age the resulting immunity is of longer duration.

Our observations with Strain F have shown it to compare favourably with published reports on other strains.

In addition to the experiments reported here, Strain F has been used to inoculate numerous groups of young chickens totalling more than 1,000 chicks, and more than 2,000 laying hens; in these, no deaths which could be attributed to the virus have occurred. Respiratory symptoms have appeared in a variable proportion of inoculated chickens but no nervous or intestinal symptoms have been seen.

In the experiments to date no fowls which have been immunised by the intranasal route as adults have developed symptoms following challenge, but virus has been excreted.

The experiment in which adult fowls received diluted virus intramuscularly and were not immunised indicates the undesirability of using diluted virus by this route. This observation is in accord with the suggestion (Beaudette, 1949-50) that "breaks" following vaccination with live virus may be due to vaccinators using less than the recommended dose.

Our observations indicate there is little danger of "no takes" when the virus is given intranasally.

Chicks vaccinated during the first week of life were immune for four to five months in so far as they failed to develop symptoms when subjected to virulent virus. Thereafter a proportion sickened when challenged. However, there was substantial resistance in most chickens more than a year after vaccination as baby chicks.

Dobson and Simmins (1951) examined samples of skin taken from the abdominal wall of eviscerated imported poultry carcases. They demonstrated N.D.V. in 35 of 42 samples examined from chickens and hens from country of origin "A," and from five of 13 samples from the same species from country of origin "B." The disease caused by the viruses which were isolated appears to have been of the virulent type.

This is a surprisingly high incidence of infection since recovered fowls seldom or never remain carriers of virus; in fact, the period of infectivity of survivors of infection with the severer type of disease appears to be of comparatively short duration. The exceedingly high proportion of infected imported carcases reported by Dobson and Simmins could be explained by surface contamination of the majority from a smaller number of infected fowls or from processing in an infected environment, or could result from active infection in most fowls at the time of slaughter.

It is unlikely that any large number of diseased fowls would be included in consignments for export, since it is known that vaccination against Newcastle disease is widely practised in countries "A" and "B." The findings of Dobson and Simmins could be explained on the basis of sub-clinical infections with virulent virus occurring amongst partially resistant fowls in the packing stations at the country of origin.

Summary

Preliminary experiments with a strain of Newcastle disease virus of low pathogenicity (Strain F) are reported. Chickens inoculated intranasally with this virus either developed mild respiratory symptoms or failed to show symptoms. Chickens vaccinated when less than seven days old were immune for four to five months as judged by their failure to develop symptoms when challenged with virulent virus. Growing chickens or adults developed a more durable immunity.

Vaccine applied by wing web stab gave unreliable results.

Most vaccinated fowls whose H.I. titres had fallen to 10 or less were found to excrete virus in their faeces for a period following challenge.

Virus was not re-isolated from fowls whose H.I. titre was 20 or higher at the time of challenge.

Acknowledgment.—The writer is indebted to Mr. C. A. Perkins for technical assistance.

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CLINICAL COMMUNICATION

CRYPTORCHIDISM IN THE BOVINE ANIMAL

G. H. CREYKE, B.SC., M.R.C.V.S.,
KNARESBOROUGH, YORKS.

Some time ago I was asked to examine a 10-month-old stirk, one of a mixed lot of feeding cattle. The owner was of the opinion that this animal had been castrated as a calf, and yet its behaviour with the heifers was definitely masculine.

Examination proved the absence of testicles in the scrotum but a distinct swelling was observed about 9 inches anterior to the scrotum and lateral to the mid-line. Palpation of this swelling revealed an irreducible, freely movable object with cord attached. It was decided that this must be a misplaced testicle and to remove it.

The animal was cast, the object moved as near to the scrotum as possible and planocaine injected into its substance. The skin was tensed and incised to reveal muscle. This was incised and a testicle appeared in the incision. Castration was performed by reflecting the tunica vaginalis, severing the avascular portion of the cord, ligating the vascular portion and removing the testicle with the emasculator. The muscle and skin wounds were closed together with two silk sutures.

The owner has since reported that the animal is feeding well and has lost its masculine tendencies completely.

In connection with the Van Riebeeck Festival at Cape Town (celebration of the Dutch settlers landing 300 years ago) various towns either repaired or had specially built, coaches which were driven to Cape Town, some with as many as eight horses. Coaches left for Cape Town from Bloemfontein, Windhoek, Mafeking, Beit Bridge, Sabi, Messina, Ohrigstad, Amsterdam (North Transvaal), Port St. Johns and Pretoria. Cape Town was also expected to produce a coach and four.

ABSTRACTS

Estradiol Cyclopentylate in Treatment of Anoestrum in Cattle*

The diagnosis and treatment of functional sterility in cattle is often difficult or impossible, but anoestrum may often be dealt with successfully.

A careful rectal examination should first be made and where a normal corpus luteum is found and can be expressed, results are often good; where the ovaries are inactive, however, oestrogens have to be used. Stilboestrol has commonly been used but results are often disappointing.

A new oestrogen, *viz.*, estradiol cyclopentylate (E.C.P.) at a dosage of 5 mg. is compared with 20 mg. stilboestrol in the treatment of anoestrum in cattle with inactive ovaries. Whereas with stilboestrol 59 per cent. showed symptoms of oestrum within 30 days and 31 per cent. conceived, with E.C.P. the figures were 94 per cent. and 38 per cent. respectively.

It would appear that whilst the new drug is much more effective in producing oestrum, the induced periods are not greatly more fertile than with stilboestrol. [It is not stated whether E.C.P. is more effective in initiating a normal train of oestrous cycles, though this is implied.—*Abstractor.*]

J. A. L.

* **The Use of Estradiol Cyclopentylate in the Treatment of Anoestrum in Cattle.** GIBBONS, W. J. (1951.) *Vet. Med.* **46.** 397-399.

* * * * *

Some Aspects of Rearing Cattle for Beef*

The information presented is based upon feeding experiments which the author is carrying out at Cambridge. Groups of steer calves, of the Hereford, Dairy Shorthorn and Friesian breeds were kept on nutritional planes such as commonly would be encountered in dairy herds as distinct from beef herds except that in the high plane group the calves were kept on Shorthorn nurse cows for six months. The groups were as follows: (1) High plane up to eight months followed by high plane (H H); (2) High plane followed by moderate plane (H M); (3) Moderate plane followed by high plane (M H); (4) Moderate plane followed by moderate plane (M M).

The investigation shows that, to start with, those calves on a high plane of nutrition scored in every respect. Thus, the M M group had to be kept for a whole year longer than the H M group despite the fact that both these groups were on the same level of feeding from eight months onwards. It was also clear that the beef breed animal reacted most unfavourably to the moderate initial rearing standards and rarely recovered from a bad start, remaining stunted for the rest of its life.

These results are to be explained, it is suggested, as follows: by generous feeding for the first eight months the calves are carried quickly through the stages of growth when they can utilise only highly digestible foods of a high feeding value. Thus they grow quickly and more rapidly reach a stage when they are capable of dealing adequately with roughages. Moderately fed calves take a longer time to reach this stage.

These experiments were based on the view of the author that a high nutritional plane in early life is even more important than the breeding of the animal. The results reported confirm this opinion and back the now well-known tag that "half the pedigree goes in at the mouth."

* **Some Aspects of Rearing Cattle for Beef.** BROOKES, A. J. (1951.) *J. Farmers' Club.* 1951. 64-71.

The managerial and financial implications of the various groups are described. [These seem to show that a great deal more beef can be produced from our dairy herds and that it is not necessary, for this purpose, to run specialised beef-breeding establishments.—*Abstractor.*]

N. S. B.

* * * * *

Procurement and Handling of Swine Blood Samples on the Farm*

A description is given of the methods of taking blood samples from pigs of varying ages and of the precautions necessary to ensure that the samples are satisfactory for subsequent examination.

The authors obtained their results from experience gained in taking a large number of blood samples from more than 100 farms during a three-year period.

The method of bleeding from the anterior vena cava, which is the method of choice, is recorded in considerable detail—the description being enhanced by photographs. Baby pigs from birth to 50 lb. are placed on their backs in a trough, a 1½-inch needle being used. Pigs too large to bleed by this method are bled standing, when a 3½- to 4½-inch-length needle is used. A 4-inch needle will bleed all but the largest sows. Two or more needles and a 10 c.c. glass syringe are needed. The syringe and needle should be washed at least three times with 0·9 per cent. Na.Cl solution after each animal. The needles are used alternatively and the one not in use is laid in 70 per cent. alcohol. Removal of the needle before discharging the sample into the collecting tube will lessen haemolysis—a quality to which pig's blood is especially susceptible.

The point at which the needle is inserted and the direction are described in detail. When the pig is on its back the needle is inserted about 1 inch to the side of, and anterior to, the point of the sternum (on either side) and is directed, at an angle of about 30° to the vertical, backwards and towards the middle line.

The restraint of the animal which is to be bled standing is that usually employed to tie up large pigs—a noose of rope (mesh not larger than ¼ inch in diameter) is slipped over the upper jaw behind the tushes and the head is pulled up to a post and tied so that the whole head is directed slightly upwards, extending the neck. The needle point should always remain anterior to the first pair of ribs.

The authors claim that this method is clean and simple and avoids haemolysis; sterile samples can be secured in the field. It is preferable in every way to that of bleeding from the ear. Haemorrhage is rare following the operation though occasionally fatalities may occur, especially if the aorta has been punctured by mistake. Sometimes small pigs are dazed for 10 to 20 minutes following bleeding but recover quickly.

To prevent haemolysis it is important to avoid extremes of temperature and agitation. Formation of clot takes place best at body temperature but in practice a somewhat lower temperature is quite satisfactory. Extremes of temperature should be avoided.

N. S. B.

* **The Procurement and Handling of Swine Blood Samples on the Farm.** HOERLEIN, A. B., HUBBARD, E. D., & GETTY, R. (1951.) *J. Amer. vet. med. Ass.* **119.** 357-362.

At the annual general meeting of the British Horse Society Mr. J. L. O'Connell, M.R.C.V.S., the British Railways' representative on the Council of the Society, agreed to examine the condition of all barge horses, as he had recently taken over the control of those owned by the nationalised industries.

REPORT

[**Cyprus :** Annual Report (1950) of the Veterinary Service, Department of Agriculture (R. J. ROE, O.B.E., M.R.C.V.S, D.V.S.M.).]

Improvement in prices of animal products caused owners to provide hand-feeding in times of drought and voluntarily to seek veterinary treatment for their animals.

No major epizootic occurred during the year. Although no case of anthrax was reported, compulsory vaccination was continued, mainly from concentrated emulsion prepared at Onderstepoort. No cases of bluetongue were reported but voluntary vaccination was continued. Newcastle disease, which was observed for the first time in Cyprus in June, 1949, continued to occur during the first half of 1950. Quarantine measures and compulsory inoculation of fowls in infected areas probably played a part in arresting the epizootic, but it is believed that other unknown factors also were involved. Three-day sickness of cattle occurred to a greater extent than in any year since 1940, although mortality was low. Parasitic gastro-enteritis, distomiasis and external parasitic infections have occurred, but have been controlled by suitable prophylactic and therapeutic measures.

Two cattle were diagnosed as carriers of warble fly, the first since 1942. It is probable that this infection was re-introduced from jettisoned carcases of animals washed ashore from vessels transporting animals between neighbouring territories.

Only a very limited amount of research was possible during the year, mainly because of the absence of staff. The usual diagnostic duties were carried out.

Meat inspection under supervision of the veterinary staff was carried on throughout the year. Animal husbandry services were pursued by the Livestock Officer, who is a member of the staff of the Livestock Division under the Chief Veterinary Officer.

F. R. B.

NOTES AND NEWS

Diary of Events

April 26th.—Annual General Meeting of the Association of State Veterinary Officers, at the Royal Veterinary College, Camden Town, N.W.1, 2 p.m.; Annual Dinner, Criterion Restaurant, Piccadilly, W.1, 6.30 p.m.

May 2nd.—Meeting of the North of Ireland Division, B.V.A., at Stormont, 2.45 p.m.

May 7th.—Royal (Dick) School of Veterinary Studies: College Ball

May 8th.—Annual General Meeting of the Central Division, B.V.A., at the Royal Veterinary College, N.W.1, 6 p.m.

May 15th.—Meeting of the South Eastern Division, B.V.A., at Maidstone (Royal Star Hotel), 6 p.m.

June 4th.—109th Annual General Meeting of the Royal College of Veterinary Surgeons, at 10, Red Lion Square, London, W.C.1, 12 noon.

June 4th.—Annual General Meeting of the Victoria Veterinary Benevolent Fund, at 10, Red Lion Square, London, W.C.1,—immediately following the above.

June 4th to 6th.—Meetings of Committees and Council, R.C.V.S., at 10, Red Lion Square, London, W.C.1.

June 12th.—Annual Meeting of the R.A.V.C. Golfing Society, at the North Hants G.C., Fleet.

Sept. 8th—13th.—Seventieth Annual General Meeting and Congress of the British Veterinary Association, at Harrogate.

B.V.A. Quarterly Meetings in Edinburgh

The following are the arrangements for the quarterly meetings of the British Veterinary Association to be held in the Royal (Dick) School of Veterinary Studies, Edinburgh, on April 29th and 30th, and May 1st:—

Tuesday, April 29th:
12 noon. Home Appointments Committee.
2.15 p.m. Veterinary State Medicine Committee.

Wednesday, April 30th:
10.30 a.m. Organising Committee.
12 noon. Parliamentary and Public Relations Committee.
2 p.m. General Purposes and Finance Committee.

Thursday, May 1st:
10 a.m. Council.

R.C.V.S. Examinations

May 7th.—R.C.V.S. Animal Management Examination. Tour commences at Edinburgh.
May 8th.—Entries for D.V.S.M. Examination due.
May 12th.—R.C.V.S. Pharmacology, etc. Examination (Revised Syllabus): Written Examination.
June 5th/6th.—D.V.S.M. Written Examinations at Edinburgh.
June 26th/27th.—R.C.V.S. Membership Written Examinations.

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PERSONAL

Appointments in the Colonial Veterinary Service.—The Colonial Office announces the following Appointments in the Colonial Veterinary Service: Mr. L. R. Hutson, B.V.SC., Chief Veterinary Officer, Antigua, Leeward Islands, to be Deputy Director of Agriculture, (Animal Husbandry), Trinidad; Mr. H. K. Littlewood, M.R.C.V.S., Deputy Director of Veterinary Services, Nigeria, to be Principal Veterinary Officer, Western Region, Nigeria; Mr. J. McCulloch, M.R.C.V.S., Senior Veterinary Officer, Nigeria, as Principal Veterinary Officer, Eastern Region, Nigeria, and Mr. J. K. H. Wilde, B.SC., A.R.C.S., M.R.C.V.S., Chief Veterinary Research Officer, Tanganyika, as Assistant Director of Laboratory Services, Nigeria.

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Exchange Visit (Denmark).—A Danish girl, aged 17 years, the daughter of a veterinary surgeon, would like to exchange visits with an English girl; both as daughter of family. Anyone interested please write Bente Grove Vejlstrup, Horslunde, Denmark.

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Birth.—Callum.—On April 12th, 1952, at Louth, Lincolnshire, to Irene, wife of R. H. B. Callum, M.R.C.V.S., a son—Robert John Lindsay—brother for Elizabeth and Margaret.

Hastie.—On April 20th, 1952, to Pamela (*née* Bourne), wife of Peter S. Hastie, M.R.C.V.S., Ashford, Kent, a daughter.

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R.C.V.S. OBITUARY

Edgar, Archibald, Whithorn, Wigtown. Graduated Glasgow, July 15th, 1884. Died April 10th, 1952; aged 88 years.

White, William, Veterinary Examiner, Department of Agriculture, Upper Merrion Street, Dublin, C.17. Graduated Dublin, December 17th, 1918. Died March 26th, 1952; aged 55 years.

Mr. Archibald Edgar, M.R.C.V.S.

Mr. Archibald Edgar, whose death at his home in Whithorn we record above with deep regret, was one of the best known veterinary surgeons in South-West Scotland. Mr. Edgar was the oldest member of Wigtown Agricultural Society and Machars Horse Breeding Association. For many years he was Provost of Whithorn and a member of the old school board. He was senior elder in St. Ninian's Priory Church.

As a breeder of Border Leicester sheep he gained many notable successes at agricultural shows.

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GENERAL OBITUARY

Dr. Delwin M. Campbell

We learn with profound regret of the death, which took place at his home 7632 South Crandon, Chicago, Ill., on March 27th, of Delwin M. Campbell, D.V.S., Editor of *Veterinary Medicine*. Pending the publication of a memoir in an early issue, it may now be said that few men have used a background of practice and experience in veterinary public health with greater advantage to their practising colleagues than did Delwin Campbell in his 40 years tenure of his editorial chair, and as publisher of the many books issued by the Veterinary Magazine Corporation, of which he was President. On this side, the loss of so genial and well-informed a colleague will be mourned by the large number who met him through the medium of his enthusiastic attendance at the five International Veterinary Congresses held from 1914 to 1949. He was, it will be remembered, the leader of the A.V.M.A. escorted tour to Europe on the occasion of the XIVth Congress in London. Dr. Campbell's zest for these times of reunion and re-dedication to the cause of the promotion of veterinary science, as applied in the field, to which he devoted his wide experience and considerable literary gifts, was exemplified by his "impressions" of the 1949 Congress, published in our issue of August 27th of that year.

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Dr. Leonard Leslie

A number of veterinary surgeons who qualified from the Royal Veterinary College during recent years will learn with sorrow of the death on April 7th of Dr. Leonard Leslie, of Streatley-on-Thames. Dr. Leslie was one of those general medical practitioners who combined a wide knowledge of medicine with a kindly fund of common sense. Many veterinary students are indebted to him and will grieve that this energetic and comforting physician will not be seen on his rounds now.

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VETERINARY COUNCIL OF IRELAND

Appointment of New Registrar

In its current issue the *Irish Veterinary Journal* records an announcement made by the Veterinary Council of Ireland that Mr. S. J. Kavanagh has tendered his resignation as Registrar as from March 31st, 1952.

"In accepting Mr. Kavanagh's resignation with regret, the Council are mindful of his past services to the Council, his unfailing courtesy at all times and the able and efficient manner in which he has conducted his duties as registrar over the past 17 years.

"The Council has pleasure in informing the profession that Professor A. F. O'Dea has found himself in a position to take up the post of registrar to the Council with effect as from April 1st, 1952.

"In order that Professor O'Dea might become the new registrar, he has relinquished his membership of Council and instead the Council have co-opted Mr. Sean Hyde, of Cork, who has consented to act as limited elected member until May 31st, 1952."

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Veterinary Surgeons Bill, 1952 (Eire)

In an editorial in its current issue, the *Irish Veterinary Journal* comments as follows on the introduction of the Veterinary Surgeons Bill, 1952, laying emphasis on the fact that, fully to implement the recommendations of the Advisory Committee, with special reference to the desire of the profession to have veterinary education conducted in a University with full Faculty status, further legislation will be necessary:—

With the introduction into the Dail of the Veterinary Surgeons Bill, 1952, by the Minister for Agriculture, a preliminary step has been taken in the reorganisation of the affairs of the profession. . . . The purpose of the Bill is to make further provision for the teaching of Veterinary Surgery and Veterinary Medicine and for the regulation and control of the profession. The Bill, when it becomes enacted by the Oireachtas, is to be construed as one with the Veterinary Surgeons Act of 1931, so that except in so far as is specifically mentioned, the provisions of the 1931 Act still remain in force.

The main provisions of the new Bill are concerned with the part Universities may play in veterinary education and impose upon the Minister in consultation with the Veterinary Council of Ireland the responsibility for the supervision of such education. The schedule mentioned in Section 4 of the Bill refers to the agreement which was concluded between the British and Irish Governments in 1949 following the introduction of the British Veterinary Surgeons Act of 1948. The passage of this Act necessitated the reconstitution of the Royal College Council and provision had, therefore, to be made for the continuance of Irish representation. This section of the Bill also gives the Government power to introduce by Order the new agreement recently drawn up by representatives of the Royal College and of the profession in this country.

Of the remaining sections of the Bill, Sections 5 and 6 give the Government powers to provide for the reconstitution of the Irish Veterinary Council and its regulation, and Section 7 gives additional disciplinary powers to the Council. Under the Act of 1931, erasure of a member's name from the Register is the sole disciplinary measure the Council can take whereas an additional and less harsh

procedure in the form of suspension is now suggested. The need for the additional powers given to the Council under Section 8 of the Bill for the control of the treatment of animals by unregistered persons is well recognised by the profession.

It will be seen that the important question of veterinary education and the reconstitution of the Veterinary Council as well as the implementation of the new Agreement with the Royal College will not take immediate effect so that in this regard the Bill, when enacted by the Oireachtas, will be in the nature of an enabling Act only.

Further legislation will, therefore, be necessary before the recommendations of the Advisory Committee can be implemented. These, amongst other matters, make it clear that it is the desire of the profession to have veterinary education conducted in a University with full Faculty status. It is to be hoped, therefore, that when the present Bill has been considered, immediate steps will be taken to introduce further legislation specifically dealing with Veterinary Education.

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REVISED RULES FOR DELIVERY OF NEW CARS

On Thursday of last week the trade associations concerned issued a statement detailing the scheme to tighten control over the delivery of new cars which was briefly announced on March 3rd by the Parliamentary Secretary to the Ministry of Supply.

The main feature of the new rules is the declaration and agreement in which every customer—whether an individual, a company, a fleet user, or other organisation—will be required to disclose details of all new cars owned or operated since the war together with reasons for their need of a new car. This document, which replaces the previous form (which served merely as a guide to dealers), will constitute a valid and legally binding agreement between the customer, the dealer, and the B.M.T.A. It will enable the B.M.T.A. to take steps against persons making a false declaration, even to setting the sale aside.

Manufacturers will make it a condition of supply that dealers not only adhere strictly to the new rules, but also record their reasons for each delivery made. In future deliveries will be made in rotation, according to the dates of orders, to those who complete the declaration form and execute the usual two-year covenant, and who have not had a new car since the war. Only in exceptional circumstances will this condition be waived. But in the public interest and subject to the foregoing, preference will first be given to duly sponsored doctors, midwives, and veterinary surgeons; thereafter to business and professional users, to compassionate cases, and to firms, companies and fleet users with immediate need for an additional car or a replacement of a pre-war car or post-war car which is beyond economic repair.

The statement emphasises that because of the few cars to be released this year to the home market the number available, after such preferential deliveries have been made, will be small. To regularise deposits, a rule is being introduced whereby a dealer must, if requested, return any deposit paid unless he is reasonably certain of being able to deliver the car within six months of the date of the request. This rule does not apply to cars for which special bodywork is ordered, nor to those exceeding £1,500 in price, including purchase tax.

Mr. George Beharrell, President of the Society of Motor Manufacturers and Traders, said at a Press conference that the motor industry, which is fighting hard for more exports—and for the necessary materials to maintain production—does not entertain any hope that an increased allocation of cars to the home market will be permitted. The larger manufacturers are investigating outstanding orders placed in 1946 to decide what action can be taken to expedite delivery.

Mr. G. Lloyd Dixon, Chairman of the car section, emphasised that the industry, which is essentially competitive, does not relish having to impose these restrictions on its customers. Only a considerably increased supply of cars to the home market can effectively cure the problems arising from the distribution of the present small allocation of 60,000—the lowest (apart from the war years) since 1923, and only one-fifth of the number of new cars available to the public in 1938.

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LEGAL NOTES

Successful R.C.V.S. Prosecution at Poole

Mr. H. Wyllys, on behalf of the Royal College of Veterinary Surgeons, conducted a successful prosecution at Poole on April 7th, when the Magistrates granted a discharge to H. G. Ings, of 21, York Road, Broadstone, Dorset, conditional upon his keeping an undertaking never to repeat the offence, he having pleaded guilty to five summonses for practising veterinary surgery when not on the register.

Mrs. Hilda E. Frayne, 70, Kingston Road, Poole, owner of an Alsatian, said she asked Ings to see her dog on December 21st. He prescribed a brown powder. Altogether, she said, Ings saw the dog about six times. She paid him £1 14s. for his visits.

Later the dog had to be destroyed as its condition deteriorated.

Mr. R. N. Neville-Jones, for Ings, said his client had practised as an animal doctor in Broadstone for 20 years up to 1945. Since then he had not practised generally. Ings had gained knowledge as an animal doctor when he was a farrier sergeant in the Army. He could have applied to be placed on the supplementary list, but decided, because of his age, and having retired, not to do so. He took his name-board down from the gate in 1945 and had not practised generally as an animal doctor since then. But, unfortunately, his name was not taken from the telephone book.

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Royal College of Surgeons Held to be a Charity

In its "Medicine and the Law" feature, *The Lancet*, of April 19th, summarises the facts in a recent "will case" and comments in interesting fashion upon the position created by the House of Lords in establishing, by reverse of a decision of 1899, that the Royal College of Surgeons is in the legal sense a charity. "The college will consequently benefit by receiving the endowment fund set up by Lady Bland-Sutton's will; presumably it will also have the advantage in future of the exemption from income-tax which the 1899 decision refused.

"The charter of 1800 recited that the object of the college was 'the due promotion and encouragement of the study and practice of the art and science of surgery.' In 1899 the Court of Appeal held that the income of the college was not 'for the promotion of science' (within the words of the relevant statute) because the promotion of the interests of practising surgeons was one of the main objects. The House of Lords, by a majority of four to one, has now taken a different view of the words in the charter. 'Study' and 'practice,' said Lord Morton of Henryton, embody two ideas—research in the laboratory, and the practical experience which can be gained only by using surgical implements upon human or other bodies. The promotion of the interests of surgeons, emphasised in the 1899 decision, was, he thought, no more than an incidental, though an important and perhaps a necessary, consequence of the work of the college in carrying out its main object. Lord Cohen, in a dissenting judgment, felt that the disciplinary and 'defence' activities of the college were something more than secondary and consequential. He therefore regarded them as not merely ancillary to a main charitable object but as non-charitable activities which prevented the college from being regarded as a charity in law. His view did not prevail.

"The Bland-Sutton litigation has had a curious course. The will created a trust fund for, amongst other things, the maintenance and benefit of the Bland-Sutton Institute of Pathology, then part of the Middlesex Hospital medical school. If the hospital became nationalised or by any means passed into public ownership, the fund was to be transferred to the Royal College of Surgeons. The testatrix died in 1943: the hospital was transferred to the Minister of Health on July 5th, 1948, under the 1946 Act. Mr. Justice Danckwerts held that the hospital had not been nationalised within the meaning of the will.[1] The Court of Appeal reversed him, but held that the gift over to the college was invalid because it was contrary to the legal rule against perpetuities unless the college were a charity.[2] The Court of Appeal could not hold the college to be a charity because in 1899 it had taken the opposite view. Now the House of Lords (not being bound by the Court of Appeal's judgment of 1899) has decided that the hospital was nationalised and that the college is a charity after all.

"Lord Morton rendered a great service in drawing attention to the fact that the legal definition of a charity primarily depends upon words in the preamble to a statute of Queen Elizabeth I, of which statute every word except the preamble is repealed. It is high time, as he observed, that the Legislature re-wrote the law. Perhaps the Lord Chancellor's Law Revision Committee could be asked to undertake the task. Meanwhile what is the Inland Revenue doing about the money withheld—wrongly, as it is now clear—since 1899?"

[1] *Lancet*, 1950, ii, 155.
[2] *Ibid*, 1951, i, 405.

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VACCINATION AGAINST CONTAGIOUS ABORTION WITH S.19 VACCINE

In a recent announcement relating to the above the Ministry of Agriculture states that the widespread use of S.19 vaccine against contagious abortion in this country has greatly reduced the serious losses of milk, and also of meat, that only a few years ago were caused by this disease. "It is a matter of some concern, therefore, that, except in Scotland, there was a small decline in 1951 in the number of heifer calves vaccinated under the Ministry of Agriculture's Calf Vaccination Scheme. In England, 218,000 calves were vaccinated compared with 228,000 in 1950, and in Wales

24,000 compared with 25,000. In Scotland, 88,000 calves were vaccinated compared with 86,000 in the previous year.

"There were fewer female calves on June 4th, 1951, than a year previously, and this may explain part of the decline in vaccinations. But, perhaps lulled into a sense of false security by the absence of abortions in their herds, some farmers have not continued to have their calves vaccinated. It cannot be too strongly emphasised that to leave calves unprotected in this way is to court future trouble. All farmers who have had calves vaccinated are, therefore, strongly advised to go on with vaccination.

"Farmers who have not so far taken advantage of the scheme are urged to do so. All herds are covered by the scheme and any farmer can join by sending a postcard to the Ministry's Divisional Veterinary Officer. The charge for vaccination, 2s. an animal, is an extremely small insurance premium to pay for protection against the risk of the heavy loss that is invariably caused by contagious abortion."

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FOOT-AND MOUTH DISEASE

Slaughter of Pedigree Guernsey Herd

Over the week-end foot-and-mouth disease was confirmed in a 14-year-old bull in a herd of 163 pedigree Guernsey cattle belonging to Lord Iveagh at Chalk Hall Farm, Elveden, near Thetford, Norfolk, and slaughter began immediately after a valuation for compensation. The herd was one of five pedigree Guernsey and two Shorthorn herds on the estate.

The affected herd was in a prohibited area, which covered large parts of Suffolk and Norfolk, but this has been changed to cover two distinct areas. The first is one of 15 miles radius of Elveden, attached to which is one of five miles radius of Haughley, Suffolk. The second is an area of 15 miles radius of Orford, Suffolk, connected with one of five miles radius of Great Bromley, Essex.

After a break of three days, another case of foot-and-mouth disease in South Cheshire was confirmed on Sunday last at Hill Crest Farm, Stoke, near Nantwich.

Foot-and-Mouth Order for the New Forest

On Monday last foot-and-mouth disease was confirmed at Harbridge, Ringwood, Hampshire, and at Lower Tean, Stoke-on-Trent, Staffordshire, the former outbreak involving the slaughter of 164 cattle and 67 pigs, and the latter of 99 cattle and 73 pigs. Almost all the New Forest comes within the 15-mile radius in which the Ministry of Agriculture imposed a standstill order and the Hampshire police warned forest commoners that a special order might be made requiring the forest to be cleared of cattle, although a small part of the eastern district is outside the 15-mile limit.

Since November 14th, 1951, the number of outbreaks which have occurred is 171, involving the slaughter of 9,469 cattle, 5,192 sheep, 4,743 pigs and 13 goats, and the amount paid in compensation from that date to April 12th was £557,317.

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To prevent further spread of foot-and-mouth disease, visitors to East Anglia, Southern England and Cheshire are asked to keep to footpaths and to avoid crossing fields in which stock are kept. Meanwhile, on the Continent, the International Cattle Fair, which was to have taken place at Milan, has been suspended, and in Canada over 1,100 Saskatchewan cattle affected have been shot by Royal Canadian Mounted Police. Three more herds in the Regina area found infected were in contact with the herd which originally spread the disease. They are well within the quarantine zone established by the Federal veterinarians, who are striving to confine the disease to a limited area and who say altogether 33 herds have been infected.

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The higher proportion of positive reactors to tuberculin in rural than in urban school-children reflects their much greater opportunities of drinking unpasteurised milk from tuberculous cows—opportunities which the great majority of the medical profession, with good reason, regard as highly dangerous.—*Lancet* comment on the M.R.C's nation-wide tuberculin survey.

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ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

Anthrax:

Berwick.—Evelaw Farm, Westruther, Gordon (April 10th).

Ches.—Wheellock Heath Farm, Wheellock, Sandbach (April 8th); Shop Farm, Little Stanney, Chester (April 10th); Baddington Bank Farm, Baddington, nr. Nantwich (April 14th).

Cornwall.—Treburgett Farm, St. Teath, Bodmin (April 14th).

Kirkcudbright.—Borness Farm, Borgue, Kirkcudbright (April 8th).

Warwicks.—Marriage Hill Field, Bidford-on-Avon (April 15th).

Yorks (N.R.).—Firth House Farm, High Collington, Masham, Ripon (April 15th).

Foot-and-Mouth Disease:

Ches.—Gonsley Farm, Blakenhall, Nantwich (April 10th); Checkley Cottage and Checkley Farm, Checkley, Nantwich (April 11th); The Grange, Betley, Crewe; Dairy Farm, Chorlton, Crewe (April 12th); Manor Farm, Blakenhall, Nantwich (April 14th); Malt Kiln Farm, Wrinehill, Crewe (April 14th); Nelson Farm, Wrinehill, Crewe (April 15th); Randilow Farm, Betley, Crewe (April 15th); Smith's Green Farm, Barthomley, Crewe (April 16th); Henshall Hall Farm, Mossley, Congleton (April 16th); Yew Tree Farm, Checkley, Nantwich (April 17th); Hill Farm, Stoke, and Hough Mill Farm, Wybunbury, Nantwich (April 20th); Rose Farm, Cholmondeston, Winsford (April 22nd).

Hants.—North End Farm, Harbridge, Ringwood (April 21st).

Norfolk.—Chalk Hall Farm, Elvedon, Thetford (April 19th).

Staffs.—Charnes Old Hall Farm, Eccleshall (April 16th); Bromley Hill, Eccleshall (April 20th); Heybridge Farm, Lower Tean, Stoke-on-Trent (April 21st).

Suffolk (E.).—Chantry Farm, Orford, Woodbridge (April 13th); Raydon Hall Farm, Orford, Woodbridge (April 19th).

Fowl Pest:

Dorset.—Foxholes Farm, Wyke Regis, Weymouth (April 8th).

Hunts.—Norman Cross, Peterborough, Northants (April 10th).

Isle of Ely.—129, Elm Road, March, Cambs (April 8th); Ship Inn, Paul's Bridge, Manea, March (April 16th).

Lancs.—Victoria Street, Chadderton, Oldham (April 16th).

Staffs.—75, Fisher Street, Great Bridge, Tipton (April 13th).

Suffolk (W.).—Beaconcot, Ousden, Newmarket (April 16th).

Surrey.—Holland Cottage, Blindley Heath, Lingfield; Barncourt Farm, New Chapel, Lingfield (April 10th); Lingfield School Farm; Barncot, Hare Lane, Blindley Heath, Lingfield (April 13th).

Warwicks.—Gaydon Farm, Gaydon (April 13th).

Worcs.—Leyland Cottage, Rushock, Droitwich; 6, Finstall Road, Aston Fields, Bromsgrove (April 15th).

Swine Fever:

Aberdeen.—Cairnhall, Kintore (April 12th).

Beds.—Wycombe Way Pig Club, Wardens Hills, Luton (April 19th).

Bucks.—Middle Farm, Marsh Gibbon (April 14th).

Derby.—Brook Farm (April 12th); Railway Yard, Grindleford (April 16th).

Durham.—Pallion Piggeries, Sunderland (April 12th).

Essex.—Sion House Farm, Birchanger, Bishop Stortford; Little Montrose Farm, Purleigh, Chelmsford (April 10th); Ardleigh Hall, Ardleigh, Colchester (April 14th); Merryweather Farm, Tylers Cross, Roydon (April 15th); Curds Farm, Tye Common Road, Billericay; Elmfield, Latchingdon, Chelmsford (April 18th).

Gloucs.—Standish Villa Farm, Standish, Strand (April 15th).

Hunts.—Post Office, Molesworth (April 12th).

Isle of Ely.—March Road, Turves, Whittlesey (April 15th).

Kent.—Taranaki, Stodmarch Road, Canterbury (April 14th); Vanguard Farm, Chartway Street, Sutton Valence, Maidstone (April 19th).

Lancs.—Bourne Brow Farm, Inglewhite, Preston (April 10th); Civic Hostel, Watling Street Road, Fulwood, Preston; Saxon Fold Farm, Birch Heywood (April 12th); Currey Field, Daisy Bank, Quernmore; Lanes End Farm, Thistleton, Kirkham (April 14th); Woodlands Grove Stables, Blackpool (April 15th)

Leics.—Natsopa Memorial Homes, Wellsborough, Leicester (April 16th).

Lincs (Lindsey).—Church Farm, Bucknall, Lincoln (April 19th).

Lincs (Kesteven).—Sandy Willows, Harlaxton Road, Grantham (April 14th); Millfield Farm, Scredington (April 15th).

Norfolk.—4, River Road, W. Walton, Wisbech (April 19th).

Northants.—The Homestead, Hodges Lane, Kislingbury (April 14th); Pleyell Allotments, Pleyell Road, Northampton (April 16th); Derngate House Farm, Welford Road, Boughton (April 19th).

Notts.—Kelham Hall, Newark (April 18th).

Staffs.—72, Stanley Street, Bloxwich, Walsall (April 10th); Grange Allotments Piggeries, Burslem, Stoke-on-Trent (April 15th); Spring Hill Road, Erdington Road, Aldridge; Shubbery Farm, Daniels Lane, Aldridge (April 16th).

Surrey.—Apsley Farm, Dormansland, Lingfield (April 12th).

Sussex (E.).—East Maskels Farm, Lingfield, Haywards Heath (April 16th).

Yorks (W.R.).—Priory House, High Ackworth, Pontefract (April 15th).

R.C.V.S. CENTRAL LIBRARY FOR ANIMAL DISEASES

Accessions for the Quarter Ending March, 1952

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CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the B.V.A.

TREATMENT OF BLACKLEG WITH PENICILLIN

Sir,—J. B. Conlon's case history of blackleg in a calf (*Vet. Rec.* **64**, 236), demonstrating the success of penicillin therapy in this condition, was most interesting.

Mr. Conlon remarks that one might expect successful treatment of blackleg in larger animals if penicillin were available at a lower price. This suggests that more penicillin than the 4,200,000 units given to his blackleg case would be required to effect a cure in a larger animal but surely it is conceivable that a blackquarter lesion will respond to treatment with a given quantity of penicillin, irrespective of the size or age of the affected animal.

Admittedly, the larger animals require more penicillin to build up a satisfactory blood-level but Mr. Conlon has shown us how penicillin treatment, applied locally to the lesion, can be effective without the assistance of systemic penicillin therapy.

Nevertheless, I would like to report success in treating blackleg in a larger animal with penicillin and using, in all, 2,700,000 units —a little more than half the quantity required in Mr. Conlon's case.

The subject was a two-year-old pedigree Friesian heifer which, when first seen, had been recumbent and extremely dull for 8 to 10 hours. Ruminal tympany was marked, the temperature was 106°. The release of gases after the insertion of the cannula did not appear to give any relief. The heifer was examined more thoroughly for a blackquarter lesion and eventually this was found on the right side of the spine, extending from the post-scapular region to the head of the 12th rib—the lesion was a hand-span in breadth. Crepitations were in evidence and a needle plunged into the lesion released a small amount of a dark frothy fluid. Blackleg was diagnosed and treatment commenced immediately, with the intramuscular injection in the gluteal region, of 1,200,000 units of penicillin (crystalline procaine salt), while 2 × 100,000 units of penicillin in oil (intramammary tubes) were injected at numerous points throughout the lesion.

The following day the animal's temperature was 103° and she appeared more comfortable. A further 900,000 units were injected intramuscularly and as before 2 × 100,000 units (intramammary tubes) were injected into various parts of the lesion. On the third day the animal resisted capture for a while—the temperature was 102°. Again 2 × 100,000 units of penicillin in oil were dispersed throughout the lesion.

Three months later the animal was seen again and apparently thrived well but examination revealed a shallow depressed area on the site of the previous blackleg lesion.

I feel that Mr. Conlon's young Jersey calf, with a lesion in the intermaxillary space proving to be troublesome, was at a greater disadvantage than the subject mentioned above.—Yours faithfully, Andrew F. Fraser, Weardale, Co. Durham. *April 20th,* 1952.

. . . . . .

Sir,—In his otherwise admirable Clinical Communication in *The Veterinary Record* of April 19th on the successful treatment of blackleg with penicillin, Mr. J. B. Conlon concludes with the statement "the result obtained in this case was remarkable and would lead one to expect similar results with larger animals if penicillin was available to the profession at a more economical price."

Penicillin must be one of the few substances which have continually and materially lessened in price since the war. Increased usage and improved methods of production have allowed us, as manufacturers of penicillin, to reduce prices no fewer than nine times, and the current price reductions, coupled with the introduction of our special discount to the profession, effective April 28th, allow even the most massive doses of penicillin to be administered at the cost of but a few shillings.

I submit, sir, that it would be doing a very grave disservice to the profession and to the animal-owning community were the impression to be given abroad that the use of penicillin was uneconomical, or even expensive. It is true that certain preparations of penicillin may be a little more costly than others, but as the obvious one of choice for veterinary practice for most purposes is straightforward crystalline penicillin the price question should have a minimum of deterrent effect.—Yours faithfully, Neil Mathieson, Glaxo Laboratories, Ltd., Greenford, Middlesex. *April 22nd,* 1952.

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LONGEVITY IN THE EWE

Sir,—When visiting a hill-farm in the north of Monmouthshire last month, I came across an unusual case of longevity which may be of interest to readers of the *Record.*

The animal was a cross-bred Welsh Mountain ewe, and the owner assured me that he had bred her in the late spring of 1934. She had never lost a lamb, of which she had had 39, and had never had any veterinary attention (qualified or otherwise) in her life.

When I saw her she had two week-old tup lambs with her and they were very good specimens, whilst the ewe was in excellent bodily condition despite being practically toothless.—Yours faithfully, R. C. Locke, Ministry of Agriculture and Fisheries (Animal Health Division), 9, Fields Road, Newport, Mon. *April 21st,* 1952.

DISEASES OF ANIMALS ACT, 1950—GREAT BRITAIN

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Fowl Pest	Parasitic Mange	Sheep Scab	Swine Fever
16th to 31st March, 1952	22	27	10	—	—	69
Corresponding period in—						
1951	20	—	11	—	—	34
1950	22	3	16	—	—	1
1949	7	3	22	—	5	—
1st Jan. to 31st March, 1952	119	56	65	—	1	275
Corresponding period in—						
1951	146	17	439	—	4	210
1950	126	12	52	—	18	1
1949	41	9	123	—	26	4

Tuberculosis (Attested Herds) Schemes

The number of Attested Herds, *i.e.*, herds officially certified as free from Tuberculosis as at March 31st, 1952, was as follows:—

England	Wales	Scotland	Total (Great Britain)
39,159	22,201	18,399	79,759